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Fish-hook made of bent plane wire - has two hook elements
arranged to spread when tension comes on line

MALCHERT A F 26.05.81-US-267351

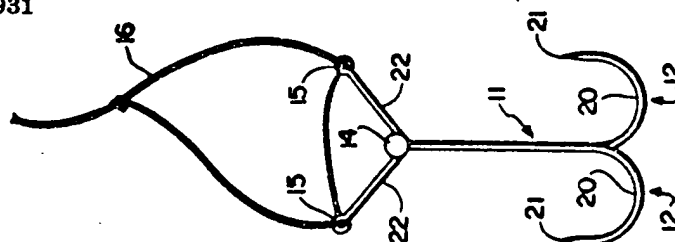
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The reversible, springless, barbless fishhook (11) comprises a pair of similar wire hook halves (12) each half being formed of a single length of wire. The wire is bent into a straight centre shank portion; and there is a barbless hook portion (20) at one end of the straight centre shank portion. There is a first coil or loop at the opposite end of the straight portion; and there is an offset upper portion (22); offset toward and in the plane of the hook portion, extending from the loop and terminating in a leader-receiving eye portion (15).

A pivot pin joins the hook halves at the coil or loop to permit tong-like movement of both hook halves toward or away from each other; and there is a leader extending movably through both of the leader-receiving eyes, forming a fixed bight. (10pp
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(19) (CA) **CANADIAN PATENT** (12)

(54) BARBLESS FISHHOOK

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BARBLESS FISHHOOK

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Background Art:

15 This invention relates to barbless fishhooks and, more particularly, provides an environmentally acceptable, springless, barbless fishhook. More particularly, it provides a reversible, springless, barbless fishhook made of two bent wires and a leader which does not tear the mouth of a fish after the hook is withdrawn, either deliberately by the fisherman or accidentally by the fish.

20 Fishing is one of the world's most enjoyable sports. Years of research, development, and design have gone into providing the fisherman with equipment for effectively catching his or her prey.

25 Notwithstanding these endeavors, fishhooks in common use today differ only insignificantly from those used decades ago. The fishhook is generally a length of wire bent into a crook or hook portion, provided at one end with a sharp point and a sharp barb and at the opposite end with a leader-receiving eye.

30 Environmentalists have long protested that the conventional barbed fishhook causes debilitating and often fatal injury to the fish in the event that the fish is able to tear loose of the hook or

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if the fisherman cuts the fish loose intending to return it to the water. Alternative remedies have been suggested, but without success. On the one hand, barbless fishhooks have been proposed, but
5 these tend to be complicated (e.g., Jacobs U. S. 1,217,768; Dawson U. S. 2,810,230; Richardson U. S. 2,632,275).

More secure fishhooks which rely on spring-loaded traps are presently illegal (e.g., Neal U.
10 S. 3,803,748). Also, providing more secure fishhooks, which reduce the chance of a fish tearing loose, does not solve the problem of a fisherman's voluntarily disengaging a fish for return to the water (e.g., Lehmann U. S. 503,864, DeForest U. S.
15 264,256).

Accordingly, an object of the invention is to provide an environmentally acceptable, springless, barbless fishhook. A further object is to provide a reversible fishhook that can be used for trolling,
20 spinning, casting, and in conjunction with plug fishing. Other and further objects and advantages of the invention will become apparent as the description proceeds.

25 The Invention:

Briefly, in accordance with the invention, an environmentally acceptable, reversible, springless and barbless fishhook is provided which is composed
30 of a pair of generally similar wire hook halves, pivoted together, with a leader connecting adjacent ends of the hooks so that tension applied to the hook by a biting fish urges the hook halves either together or apart, depending upon the initial setting of the hook.
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In more detail, each hook half is formed of a single length of wire bent into shape. The wire comprises a generally straight center shank portion, a barbless crook or hook portion at one end of the straight shank portion, a pivot coil or loop at the opposite end of the shank portion, and an offset upper portion extending from the loop and terminating in a leader-receiving eye. A pivot pin joins the hook halves together at the coil or loop, thereby permitting tong-like movement of the hook halves with respect to each other. A leader extends through both of the eyes, and is tied to form a fixed bight. Thus, as a fish applies tension to the hook, the hook halves move either inwardly or outwardly, depending on the initial setting of the hook, to either close or open, respectively, the halves and thereby secure the fish.

Should the fish throw the hook, or should the fisherman wish to disengage the hook and return the fish to the water, there are no barbs which would otherwise tear the fish's mouth, gills, or other body parts.

Brief Description of the Drawings:

The invention will be more fully described in conjunction with the appended drawings wherein:

Figure 1 is a side view of the reversible springless and barbless fishhook in the plug position, most useful when fishing in weeded areas;

Figure 2 is a side view of the hook shown in Figure 1; and

Figure 3 is a single hook half.

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Best Mode For Carrying Out The Invention:

As shown in Figure 1, the fishhook of the invention 11 comprises two generally similar wire hook halves 12 (Figure 3), each half formed of a single length of wire. The halves are joined at a pivot 14 and terminate in a pair of leader-receiving eyes 15. A leader 16 extends through both of the eyes 15 so that when tension is applied to the hook 11 by a fish attempting to remove bait (not shown) affixed to the hook, the leader 16 urges the eyes 15 together, thereby (in the configuration of Figure 1) spreading the hook portions 12 apart and expanding the hook in the mouth of the fish.

Each hook half 12 is, as shown in Figure 3, composed of a generally straight center shank portion 18, with a single coil or loop 19 at the top end and a barbless crook or hook portion 20 at the opposite end. The hook portion 20 terminates in a sharp point 21, and as noted previously, there is no barb associated with the point 21 to tear the mouth of a fish.

Adjacent the coil or loop 19 and extending approximately in the same plane as the hook portion 20 is an offset upper portion 22, which is a continuation of the coil or loop 19. The offset upper portion 22 terminates in a leader-receiving eye 15, which is merely one or more coils of wire having or forming a passageway for a relatively movable leader of fishline, monofilament, or the like, attached to the main line. The leader 16 is shown in Figure 1 and is simply a knotted loop extending through both of the eyes 15.

As also shown in Figure 3, the offset upper portion 22 of the hook half 12 is offset, in approximately the plane of the hook portion 20 and toward the hook portion 20, by an angle "a" that is quite important to the successful functioning of the fishhook of the invention. For best results, this angle "a" should be approximately 45 degrees, give or take about 15 degrees. With such an angle, tension applied to the hook by a biting fish will urge the hook halves 12 (Figure 1) outward, into a secure engagement with opposed portions of a fish's mouth, making inadvertant removal impossible, or virtually so, but making deliberate removal by a fisherman quite easy simply by expanding the upper portions 22, and pressing the hook 11 toward the fish.

As shown best in Figure 2, the pivot 14 which permits the two hook halves 12 to move in response to a fish pulling on the hook comprises merely a single coil or loop 24 of the wire constituting each hook half 12. Through the opening in these loops 24 is inserted a pin-like rivet 25, or an alternative rivet-like nut and bolt, should tension adjustment be desirable. If required, particularly in larger size hooks, one or more spring washers may be inserted between the hook halves 12, and/or between each hook half 12 and the end of the rivets 25. This facilitates movement of each hook half 12 about the pivot pin or rivets 25.

The hook of the invention may be utilized in either of two positions. First, as shown in Figure 1, the hook halves 12 are splayed outward, and a piece of bait (not shown) is affixed to either or both hooks 20. This position has been found to be most advantageous when used in plug fishing, as it

avoids weeds.

Alternatively, the hook may be reversed and the hook portions 20 can be splayed inwardly, with bait, again, affixed to either or both hooks. In this latter case, the hook halves 12 move inwardly when the fish bites the bait, thereby seizing the fish by a pincer-like movement, with one point 21 affixing itself to the inside of the fish's mouth while the opposite point 21 secures the outside of the lip.

In either position, it is apparent that the more the fish pulls, the tighter the hook seizes the fish. If the hook is positioned to move outward, the hook engages opposite portions of the fish's mouth. If the hook, on the other hand, is set to move inward, the points 21 pinch the fish's mouth. In either case, inadvertent removal by the fish is difficult if not impossible, yet deliberate removal by the fisherman is facilitated since there are no barbs to contend with.

Thus it is apparent that the invention satisfies the objects set forth above. While the invention has been described in conjunction with specific embodiments, it is manifest that various alternatives, modifications and variations will be apparent to those skilled in the art in light of the foregoing description. Accordingly, it is intended to embrace these within the spirit and scope of the appended claims.

Moreover, it will be apparent that the hook may vary in size depending on the likely prey, with smaller hooks being usable for small fish and larger ones for game fish. Also, while ordinary spring wire or coated spring wire will suffice in the usual case, any metallic wire is satisfactory.

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THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE
PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

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1. A reversible, springless, barbless fishhook
comprising:

(A.) a pair of generally similar wire hook
halves, each half being formed of a single length

15 of wire bent into:

(i) a generally straight center shank
portion;

(ii) a barbless hook portion at one end
of said generally straight center
shank portion;

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(iii) a first coil or loop at the opposite
end of said straight portion;

(iv) an offset upper portion, offset toward
and generally in the plane of said
hook portion, extending from said
loop and terminating in a leader-
receiving eye portion;

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(B.) a pivot pin joining said hook halves at
the coil or loop to permit tong-like movement of
both said hook halves toward or away from each
other; and

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(C.) a leader extending movably through both
of said leader-receiving eyes, said leader forming
a fixed bight, so that tension applied to a hook by
a fish urges said set upper portions together, and

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either moves said barbless hook portions apart or
moves said barbless hook portions together.

2. The barbless fishhook of claim 1 wherein
5 the angle of offset is between about 30 and 50
degrees.

3. The barbless fishhook of claim 2 wherein
10 said angle is about 45 degrees.

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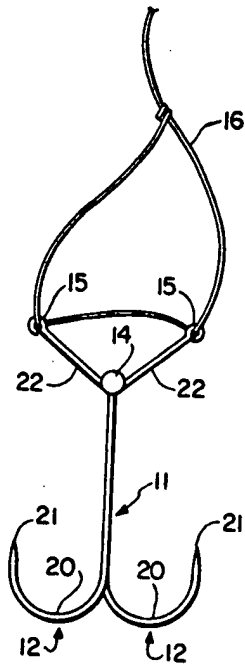


FIG. 1

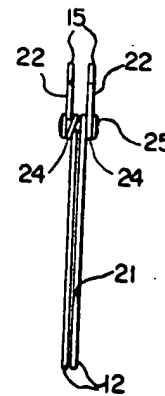


FIG. 2

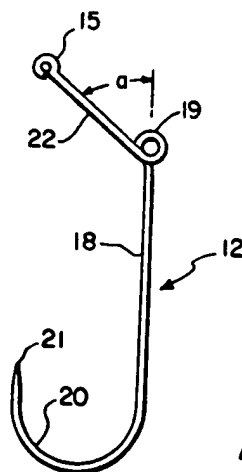


FIG. 3

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